TRANSMITTAL FORM

	Attorney Docket No.
	BC9-99-068/1503P

In re the application **Jennie CHING, et al.**

Date: **May 28, 2004**

Serial No: **09/538,380**

Group Art Unit: **2127**

Filed: **March 29, 2000**

Examiner: **Ali, Syed J.**

For: **METHOD AND SYSTEM FOR MANAGING SUBSYSTEM PROCESSES IN A DMD SYSTEM**

ENCLOSURES *(check all that apply)*

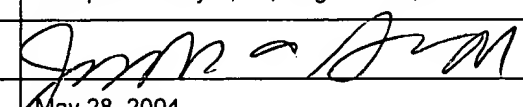|					
☐	Amendment/Reply	☐	Assignment and Recordation Cover Sheet	☐	After Allowance Communication to Group
	☐ After Final	☐	Part B-Issue Fee Transmittal	☐	Appeal Communication to Board of Appeals and Interferences
☐	Information disclosure statement	☐	Letter to Draftsman	■	Appeal Brief *(in triplicate)*
	☐ Form 1449	☐	Drawings	☐	Status Letter
	☐ (X) Copies of References	☐	Petition	■	Postcard
☐	Extension of Time Request *	☐	Fee Address Indication Form	☐	Other Enclosure(s) *(please identify below):*
☐	Express Abandonment	☐	Terminal Disclaimer		
☐	Certified Copy of Priority Doc	☐	Power of Attorney and Revocation of Prior Powers		
☐	Response to Incomplete Appln	☐	Change of Correspondence Address		
☐	Response to Missing Parts	*Extension of Term: Pursuant to 37 CFR 1.136, Applicant petitions the Commissioner to extend the time for response for xxxxxx month(s), from to .			
	☐ Executed Declaration by Inventor(s)				

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CLAIMS

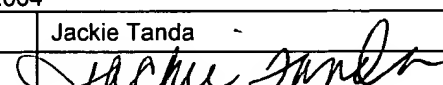| FOR	Claims Remaining After Amendment	Highest # of Claims Previously Paid For	Extra Claims	RATE	FEE
Total Claims	0	0	0	$18.00	$ 0.00
Independent Claims	0	0	0	$86.00	$ 0.00
				Total Fees	$ 0.00

METHOD OF PAYMENT

■	Charge $ 330.00 to Deposit Account No. 09-0460 (IBM Corporation) for payment of Appeal Brief filing fees.
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Attorney Name	Joseph A. Sawyer, Jr., Reg. No. 30,801
Signature	
Date	May 28, 2004

CERTIFICATE OF MAILING

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPEAL NO:

In Re Application of:	Date: May 28, 2004
Jennie CHING, et al.	Confirmation No: 6677
Serial No: 09/538,380	Group Art Unit: 2127
Filed: March 29, 2000	Examiner: Ali, Syed J.

For: METHOD AND SYSTEM FOR MANAGING SUBSYSTEM PROCESSES
IN A DMD SYSTEM

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APPELLANT'S BRIEF

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TOPICAL INDEX

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
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APPELLANT'S BRIEF ON APPEAL

Appellant herein files an Appeal Brief drafted in accordance with the provisions of 37
C.F.R. § 1.192(c) as follows:

I. REAL PARTY IN INTEREST

Appellant respectfully submits that the above-captioned application is assigned, in its
entirety to International Business Machines Corporation, Armonk, New York.

II. RELATED APPEALS AND INTERFERENCES

Appellant states that, upon information and belief, he is not aware of any co-pending
appeal or interference which will directly affect or be directly affected by or have a bearing on
the Board's decision in the pending appeal.

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III. STATUS OF CLAIMS

Application Serial No. 09/538,380 (the instant application) as originally filed included claims 1-21. Claims 2-10 and 12-21 are pending. In response to the first Office Action dated 5/6/03, Appellant amended claims 12-19 and 21 to correct the dependency of these claims. In doing so, the phrases identified by the Examiner as lacking antecedent basis have proper antecedent basis. Appellant also amended the claims to incorporate the recited aspect of dependent claim 10 into its parent claim, independent claim 1 and amended independent claims 11 and 20 similarly to claim 1. In response to the final Office Action dated 10/6/03, Appellant canceled claims 1 and 11 and amended claims 2, 10, 12, and 20. Claims 2 and 12 were amended to be of independent form by incorporating the features of their respective parent claims, independent claims 1 and 11. Further, claim 10 was amended to depend from newly independent claim 12, rather than canceled claim 1. Claim 20 was amended to recite 'program instructions' in the preamble to correct a typographical error, as noted by the Examiner. Claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21 are on appeal and all applied prospective rejections concerning Claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21 are being appealed herein.

IV. STATUS OF AMENDMENT

All amendments made to the instant application have been entered.

V. SUMMARY OF THE INVENTION

Managing subsystem processes from a central site in a digital media distributor system is provided in the present invention. The invention includes utilizing a plurality of threads as a task

manager in a central site server of the digital media distributor, and autonomously controlling initiation and termination of one or more subsystem processes with the task manager. The aspects further include providing the task manager as a main program thread of an operating system of a central site server of the DMD system, and managing subsystem processes from start-up to shut down, including states of online, offline, process inoperable, deadlock inoperable, and spawn inoperable, with the task manager to dynamically manage the DMD system.

Through the present invention, a task manager provides an ability to manage subsystem processes associated with data object transmissions of the DMD in a straightforward and effective manner. A thread architecture of the task manager achieves efficiency through worker thread command objects for each subsystem process that allows autonomous control of the subsystem process(es) that are operating. Thus, the task manager successfully monitors global system performance needs.

VI. ISSUES

The issue presented are:

(1) whether claims 2 and 12 are unpatentable under 35 U.S.C. 103(a) over Sequeira in view of Sharma et al ("Sharma");

(2) whether claims 3 and 13 are unpatentable under 35 U.S.C. 103(a) over Sequeira in view of Sharma in view of Dangelo et al. ("Dangelo");

(3) whether claims 4-6, 8-9, 14-16, and 18-19 are unpatentable under 35 U.S.C. 103(a) over Sequeira in view of Sharma in view of Dangelo and further in view of Guedalia et al. ("Guedalia");

(4) whether claims 7 and 17 are unpatentable under 35 U.S.C. 103(a) over Sequeira in view of Sharma in view of Dangelo and further in view of Flenley et al. ("Flenley");

(5) whether claim 10 is unpatentable under 35 U.S.C. 103(a) over Sequeira in view of Wang;

(6) whether claim 20 is unpatentable under 35 U.S.C. 103(a) over Sequeira; and

(7) whether claim 21 is unpatentable under 35 U.S.C. 103(a) over Sequeira in view of Dangelo in view of Guedalia.

VII. GROUPING OF CLAIMS

Appellant hereby states that claims 2-9 and 13-19 form one group, claim 10 forms one group, and claims 20-21 form one group.

VIII. ARGUMENTS

A.   Summary of the Applied Rejections

In the final office action dated 10/6/03, the Examiner cited 35 U.S.C. 103(a) in rejecting: claims 2 and 12 as being unpatentable over Sequeira in view of Sharma et al ("Sharma"); 3 and 13 as being unpatentable over Sequeira in view of Sharma in view of Dangelo et al. ("Dangelo"); claims 4-6, 8-9, 14-16, and 18-19 as being unpatentable over Sequeira in view of Sharma in view of Dangelo and further in view of Guedalia et al. ("Guedalia"); claims 7 and 17 as being unpatentable over Sequeira in view of Sharma in view of Dangelo and further in view of Flenley et al. ("Flenley"); claim 10 as being unpatentable over Sequeira in view of Wang; claim 20 as being unpatentable over Sequeira; and claim 21 as being unpatentable over Sequeira in view of Dangelo in view of Guedalia.

Appellant respectfully requests that the Board reverse the Examiner's final rejection of the pending Claims.

B.   The Cited Prior Art

Sequeira discloses a system and method for associating and controlling multimedia supporting events with a primary event. The events are translated into tasks and sent to media servers for execution at a predetermined time by being further translated into media specific tasks to control a bit-pump.

Sharma discloses an object oriented network event management framework for managing network protocol events in a computer network. The framework contains a network protocol event class object which includes a first set of network protocol event types, i.e. class definitions, which occur at multiple protocol layers. The network protocol event class object also includes a second set of network protocol event types which occur at specific protocol layers. A network protocol event object is derived from the network protocol event class which specifies network protocol event types from the first and second sets in the network protocol event object which are of interest to an application in the network. Events of the specified network protocol event types are stored in the network protocol event object as the events occur in the network. Upon request, the stored events are sent to the application.

Dangelo discloses a machine-independent operating environment, method and storage medium embodying machine-code usable by a computer system for exchanging design information between a plurality of computer-aided design tools. A set of data format objects are provided for exchanging the design information between each computer aided-design tool. An

accessing method is provided for enabling each computer-aided design tool to store the design information into and retrieve the design information from an associated data format object. An archiving method is provided for enabling the computer system to write the data format objects storing the design information onto and read the data format objects storing the design information from a storage device interconnected with the computer system using each associated data format object. Preferably, each computer-aided design tool is expressed in machine-portable object code which is executed by a virtual machine on the computer system. This invention enables computer-aided design tools to operate in an identical manner on any computer system having a virtual machine with design information exchanged therebetween in a machine-independent manner.

Guedalia discloses an apparatus and a method for communicating media over a network including encoding the media into a server database at a server, downloading from the server database to a client database generally only those portions of the media which are necessary to satisfy user requests and in response to a user request for a given item of media, determining whether the media is present in the client database, and if not, automatically downloading those portions of the media which are necessary to supply the user with the given item of media from the server database. An image server is provided including at least one processor operative to supply portions of image data to clients in response to multiple requests therefrom, and thread management software operating the at least one processor by causing it to process the requests using at least one of a plurality of threads, the thread management software being characterized in that it initiates a new thread when an existing thread has exceeded a predetermined metric of busyness.

Flenley discloses a security module for a transaction processing system. The transaction processing system includes a transaction manager which runs in a first process and is responsive to transaction requests from one or more applications and a service provider layer adapted to relay transaction requests passed from said transaction manager to associated hardware for execution. The security module is adapted to communicate with a supervisor application to receive and store application rights to execute transaction requests and is responsive to requests from the service provider layer to determine an application's right to execute a transaction request.

Wang discloses a method and program for use with a massively parallel processor (MPP) system or a distributed computer system for providing a physical design layout database across several nodes of the system. A user inputs a first datafile representing the physical configuration of the distributed processor system, and inputs a second datafile representing application tablespaces and/or database system files to be stored in the distributed processor system. The program optionally assigns the tablespaces in the second datafile to the physical configuration of the distributed processor system as specified in the first datafile and per the number of nodes, number of disks per node, and the size of the disks. The user may optionally use the physical design layout of the program, may change a portion of the intermediate physical design layout, or may provide the entire physical database design layout, as desired. The program generates a logical volume map for the tablespaces distributed over the distributed processor system, and further generates scripts to implement the tablespace structure into a physical database.

C.   **Claims 2-9 and 13-19 Are Not Unpatentable Under 35 U.S.C. 103(a)**

In the present invention, managing subsystem processes from a central site in a digital media distributor system (DMD) includes utilizing a plurality of threads as a task manager in a

central site server of the digital media distributor, and autonomously controlling initiation and termination of one or more subsystem processes with the task manager. As described in the specification (page 4, line 21 - page 5, line 2), the central site is the location in the DMD for the digital encoding of MPEG-2 files from source video tapes, for the storage and management of digital files, for the management of remote site(s), and for the distribution of schedules and MPEG-2 files. Thus, the processing, analysis, distribution, and management of data occurs at the central site. Through the present invention, the task manager of the central site provides an ability to manage subsystem processes associated with data object transmissions of the DMD in a straightforward and effective manner.

In rejecting claims 2 and 12, the Examiner states, "Sharma discloses the following limitations not shown by Sequeira, specifically the method of claim 1 wherein utilizing a plurality of threads further comprises utilizing a main manager thread ... By utilizing a main manager thread, as disclosed by Sharma, to manage the creation and deletion of threads, threads can be created and destroyed dynamically, ..." Appellant respectfully disagrees with the Examiner's position.

The "server management thread" of Sharma pointed to by the Examiner as a "main manager thread" is disclosed as being responsible for management of the server thread pool by coordinating the creation or deletion of server threads in the server thread pool. While the Examiner contends that utilization of this so-called 'main manager thread' would allow creation and deletion of threads dynamically in Sequeira, Appellant fails to see how or why a server management thread could or would be used with Sequeira. Sequeira teaches the utilization of the System Scheduling mechanisms 340 to generate tasks that are assigned to threads whose status is monitored during execution (see col. 9, lines 5-65). Thus, Appellant respectfully submits that

Sequeira specifically teaches a manner of addressing thread management that, as the Examiner admits, does not utilize a main manager thread. Appellant further respectfully submits that there is nothing to teach or suggest that this management by Sequeira is not dynamic in creating and deleting threads. Therefore, Appellant fails to see any motivation to introduce the use of a server management thread from Sharma in Sequeira, as contended by the Examiner. Accordingly, Appellant respectfully submits that claims 2 and 12 are allowable over the cited art.

Appellant further respectfully submits that the respective dependent claims 3-9 and 13-19 of independent claims 2 and 12 include the features of the independent claims that are believed to be allowable over the cited art, while adding further features and thus are also allowable for at least those reasons stated above.

With regard to the teaching of the spawning of child threads from Dangelo or the teaching of a watchdog thread from Guedelia or the teaching of control thread spawning in Flenley in the rejections of the dependent claims, given the aforementioned deficiencies of Sequeira, Appellant respectfully submits that even the inclusion of any of these cited references with Sequiera would not render Appellant's recited invention unpatentable.

In view of the foregoing, Appellant respectfully submits that claims 2-9 and 12-19 are not taught, shown, or suggested by the cited art.

Accordingly, Appellant respectfully requests withdrawal of the rejection under 35 U.S.C. 103(a) and respectfully requests that the Board reverse the final rejection of Claim 2-9 and 12-19.

D.   Claim 10 Is Not Unpatentable Under 35 U.S.C. 103(a)

With regard to claim 10, claim 10 recites the method of claim 2 wherein controlling one or more subsystem processes further comprises controlling a subsystem process from the group

comprising a scheduler process, a stage manager process, a local insertion system proxy process, an error document check process, a response document processor process, a disk pool manager process, a request generator process, As-Run manager processes, an update network break time process, and a network local broadcast process.

The Examiner admits that Sequeira does not show the recited feature of controlling of subsystem processes with a task manager of the central site includes controlling a subsystem process from the group comprising a scheduler process, a stage manager process, a local insertion system proxy process, an error document check process, a response document processor process, a disk pool manager process, a request generator process, As-Run manager processes, an update network break time process, and a network local broadcast process, the Examiner. While the Examiner then points to Wang (col. 3, line 57 - col. 4, line 10) for disclosing this recited aspect of the present invention and contends that it would have been obvious to combine Sequeira with Wang "since the processes being executed must be a set of processes an operating system requests service for. The PSSP and AIX definitions incorporated into Wang show that these are two operating systems that are commonly used together, thus a need exists for a system that treats the processes of these systems," Appellant respectfully disagrees with this position.

The control of subsystem processes of the present invention occurs via a task manager in a central site of a DMD system. While the task manager is shown in the operating system layer in Appellant's Figure 2 and the operating system layer indicates AIX and PSSP programming, Appellant respectfully submits that there is nothing in the mere description of the PSSP layer over an AIX operating system layer in Wang that would teach or suggest a task manager in that layer. Thus, there is nothing in Wang to teach or suggest controlling a subsystem process via a task manager nor the control of subsystem processes from the group comprising a scheduler

process, a stage manager process, a local insertion system proxy process, an error document check process, a response document processor process, a disk pool manager process, a request generator process, As-Run manager processes, an update network break time process, and a network local broadcast process with a task manager, as recited by the Appellant. Therefore, given the admitted deficiency of Sequeira regarding this aspect of the present invention, and the lack of any teaching or suggestion in Wang regarding this aspect, Appellant respectfully submits that even the combination of Sequeira with Wang fails to teach or suggest the recited invention, as originally presented in claim 10.

In view of the foregoing, Appellant respectfully submits that claim 10 is not taught, shown, or suggested by the cited art.

Accordingly, Appellant respectfully requests withdrawal of the rejection under 35 U.S.C. 103(a) and respectfully requests that the Board reverse the final rejection of Claim 10.

E.   Claims 20 and 21 Are Not Unpatentable Under 35 U.S.C. 103(a)

Regarding independent claim 20, claim 20 recites a computer readable medium containing program instructions for managing subsystem processes from a central site in a digital media distributor (DMD) system, the program instructions comprising providing a task manager as a main program thread of an operating system of a central site server of the DMD system, and managing subsystem processes associated with data object transmissions of the DMD system from start-up to shut down, including states of online, offline, process inoperable, deadlock inoperable, and spawn inoperable, with the task manager to dynamically manage the DMD system.

The Examiner contends that Sequeira discloses providing a task manager as a main program thread of an operating system of a central site server of a DMD system in the discussion of threads in col. 9, lines 16-31. Appellant fails to see any teaching or suggestion that the threads discussed in col. 9, lines 16-31, are, in any way, provided as a main program thread of an operating system, as contended by the Examiner. Rather, Sequeira's Thread Pool and Queue is shown and discussed as part of the System Scheduling mechanism which is part of the Master Scheduler 120 (e.g., see Figures 3B and 4A). There is nothing to teach or suggest that these features are, in any way, part of an operating system. Thus, Appellant respectfully submits that there is nothing to teach or suggest the recited aspect of providing a task manager as a main program thread of an operating system of a central site server of the DMD system in Sequeira.

Further, while the Examiner takes Official Notice that the recited managing of subsystem processes in claim 20 is well known and expected in the art, even if such Official Notice were accurate, it does not overcome the deficiencies of Sequeira regarding provision of a task manager as a main program thread of an operating system of a central site server of the DMD system. Therefore, Appellant respectfully requests withdrawal of the rejection of claim 20.

Appellant further respectfully submits that claim 21 depends from independent claim 20 and therefore includes the features of claim 20 believed to be allowable over the cited art, while adding further features and thus is also allowable for at least those reasons stated above. Additionally, with regard to the teaching of the spawning of child threads from Dangelo or the teaching of a watchdog thread from Guedelia in the rejection of claim 21, given the aforementioned deficiencies of Sequeira, Appellant respectfully submits that even the inclusion of any of these cited references with Sequiera would not render Appellant's recited invention unpatentable.

In view of the foregoing, Appellant respectfully submits that claims 20 and 21 are not taught, shown, or suggested by the cited art.

Accordingly, Appellant respectfully requests withdrawal of the rejection under 35 U.S.C. 103(a) and respectfully requests that the Board reverse the final rejection of Claims 20 and 21.

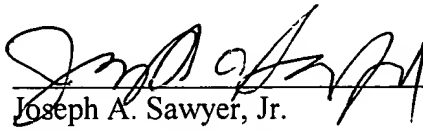## F.   Summary of Arguments

For all the foregoing reasons, it is respectfully submitted that Claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21 (all the Claims presently in the application) are patentable for defining subject matter which would not have been unpatentable under 35 U.S.C. § 103(a). Thus, Appellant respectfully requests that the Board reverse the rejection of all the appealed Claims and find each of these Claims allowable.

Note: For convenience of detachment without disturbing the integrity of the remainder of pages of this Appeal Brief, Appellant's "APPENDIX" section is contained on separate sheets following the signatory portion of this Appeal Brief.

This Brief is being submitted in triplicate, and authorization for payment of the required Brief fee is contained in the transmittal letter for this Brief. Please charge any fee that may be necessary for the continued pendency of this application to Deposit Account No. 50-0563 (IBM Corporation).

Very truly yours,

May 28, 2004

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IX. APPENDIX

2. A method for managing subsystem processes from a central site in a digital media distributor system, the method comprising:

utilizing a plurality of threads, including utilizing a main manager thread, as a task manager in a central site server of the digital media distributor; and

autonomously controlling initiation and termination of one or more subsystem processes associated with data object transmissions of the digital media distributor with the task manager.

3. The method of claim 2 wherein utilizing a plurality of threads further comprises utilizing a subsystem control thread as a child thread of the main manager thread.

4. The method of claim 3 wherein utilizing a plurality of threads further comprises utilizing a watchdog worker thread as a child thread of the subsystem control thread.

5. The method of claim 4 wherein utilizing a plurality of threads further comprises utilizing a spawn worker thread as a child thread of the watchdog worker thread.

6. The method of claim 5 further comprising utilizing one watchdog worker thread and one spawn worker thread for each subsystem process.

7. The method of claim 3 further comprising utilizing the subsystem control thread to determine need for initiation of a subsystem process.

8. The method of claim 6 further comprising utilizing the watchdog worker thread to start each subsystem process through the spawn worker thread and to monitor performance of each subsystem process.

9. The method of claim 8 wherein utilizing the spawn worker thread further comprises spawning each subsystem process and waiting for termination of each spawned subsystem process.

10. The method of claim 2 wherein controlling one or more subsystem processes further comprises controlling a subsystem process from the group comprising a scheduler process, a stage manager process, a local insertion system proxy process, an error document check process, a response document processor process, a disk pool manager process, a request generator process, As-Run manager processes, an update network break time process, and a network local broadcast process.

12. A digital media distribution (DMD) system with centralized management of subsystem processes, the DMD system comprising:

a distribution network for data object transmission;

a central site server, the central site server utilizing a main manager thread for a task manager for autonomous control of initiation and termination of one or more subsystem processes associated with data object transmission of the DMD system; and

a plurality of remote site servers for receiving data object transmissions from the central site server via the distribution network.

13. The system of claim 12 wherein the central site server utilizes a subsystem control thread as a child thread of the main manager thread.

14. The system of claim 13 wherein the central site server utilizes a watchdog worker thread as a child thread of the subsystem control thread.

15. The system of claim 14 wherein the central site server utilizes a spawn worker thread as a child thread of the watchdog worker thread.

16. The system of claim 15 wherein the central site server utilizes one watchdog worker thread and one spawn worker thread for each subsystem process.

17. The system of claim 13 wherein the central site server further utilizes the subsystem control thread to determine need for initiation of a subsystem process.

18. The system of claim 16 wherein the central site server further utilizes the watchdog worker thread to start each subsystem process through the spawn worker thread and to monitor performance of each subsystem process.

19. The system of claim 18 wherein the central site server further utilizes the spawn worker thread for spawning each subsystem process and waiting for termination of each spawned subsystem process.

20. A computer readable medium containing program instructions for managing subsystem processes from a central site in a digital media distributor (DMD) system, the program instructions comprising:

providing a task manager as a main program thread of an operating system of a central site server of the DMD system; and

managing subsystem processes associated with data object transmissions of the DMD system from start-up to shut down, including states of online, offline, process inoperable, deadlock inoperable, and spawn inoperable, with the task manager to dynamically manage the DMD system.

21. The program instructions of claim 20 wherein providing a task manager further comprises utilizing a control thread and worker threads for managing the subsystem processes.